

CLAIMS

1. A crystal of lipocalin-type prostaglandin D synthase derived from mouse.
- 5 2. A crystal as claimed in Claim 1 which has orthorhombic system space group $P2_12_12_1$ and in which the size of unit cell is $a=46.2\pm0.5\text{\AA}$, $b=66.8\pm0.7\text{\AA}$, and $c=105.3\pm1.0\text{\AA}$
3. A crystal as claimed in Claim 1 which has orthorhombic system space group $C222_1$ and in which the size of unit cell is $a=45.7\pm0.5\text{\AA}$, $b=66.8\pm0.7\text{\AA}$, and $c=104.5\pm1.0\text{\AA}$.
- 10 4. Lipocalin-type prostaglandin D synthase having a three dimensional structure represented by the structural coordinates in Table 2.
5. Lipocalin-type prostaglandin D synthase having a three dimensional structure represented by the structural coordinates in Table 3.
- 15 6. Use of the structural coordinates in Table 2 or 3 for the selection of a compound which inhibits lipocalin-type prostaglandin D synthase.
- 20 7. A method for selecting an inhibitor of lipocalin-type prostaglandin D synthase, which comprising
 - (a) providing the three dimensional structure coordinates in Table 2 or 3 representing three dimensional structure of lipocalin-type prostaglandin D synthase;
 - 25 (b) providing three dimensional structures of

candidate compounds; and

(c) selecting the candidate compound which fits to the substrate-binding site of lipocalin-type prostaglandin D synthase as inhibitor.

- 5 8. A method as claimed in Claim 7, further comprising
(d) contacting the inhibitor as selected above with lipocalin-type prostaglandin D synthase in the presence of prostaglandin H₂ to measure L-PGDS enzyme activity to confirm the inhibiting effect of the inhibitor selected.
- 10 9. An inhibitor for lipocalin-type prostaglandin D synthase selected by the method of Claim 7 or 8.
10. An inhibitor for lipocalin-type prostaglandin D synthase which is 4-dibenzo(a,d)cyclohepten-5-ylidene-1-(4-(2H-tetrazole-5-yl)butyl)piperidine.